

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons which follow. Claims 19 and 20 have been amended to correct minor informalities. Claims 5-21 remain pending.

Allowable Subject Matter

Applicants acknowledge with appreciation the allowance of Claims 5-18. Applicants also acknowledge the indication that Claim 21 contains allowable subject matter.

Prior Art Rejections

Claims 19 and 20 are rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent Nos. 5,560,425 (Sugawara) and 5,295,302 (Takai). The rejections should be withdrawn because neither reference discloses, teaches or suggests the claimed invention. For example, neither Sugawara nor Takai disclose a method for manufacturing a heat exchanger including the step of "applying a coating material comprising a fluid mixture containing flux exclusively to top peaks of corrugated fins" as called for in claim 19.

The Examiner's reliance on Takai and Sugawara is misplaced, because both Takai and Sugawara disclose coating fins that are internal to the flat tubes of the heat exchanger. However, neither reference discloses applying a coating material on corrugated fins that are stacked in an alternating manner with a plurality of flat tubes during assembly of the heat exchanger. Both Takai and Sugawara disclose corrugated fins between flat tubes (see Takai at Fig. 5 ref. no. 103 and Sugawara at Fig. 7 ref. no. 7). However, neither reference discloses that the method of manufacturing the heat exchanger includes applying a coating material to the corrugated fins between the tubes. Applicants note that the Examiner's "Response to Arguments" (Office Action at p. 3) is directed to coating the internal fins located inside (not between) the flat tubes and, thus, is inapplicable to the claimed invention.

Takai discloses a process of assembling a heat exchanger (col. 6, line 64 to col. 7, line 24). During the process, brazing material is contacted on one side of reinforcing plates 105 (col. 7, lines 3-9). The coated sides of the plates are subsequently placed in contact with the outer surfaces of the outermost corrugated fins. However, there is no

disclosure of "applying a coating material . . . exclusively to the top peaks of the corrugated fins" located between the flat tubes of the heat exchanger core. Thus, Takai cannot anticipate the claimed invention and the rejection should be withdrawn.

Sugawara discloses a process of assembling the heat exchanger (col. 6, lines 33-40). Sugawara discloses that corrugated fins 7 are interposed between adjacent flat tubes 5 and the assembly is placed in a furnace and soldered collectively. Sugawara does not disclose, teach or suggest "applying a coating material . . . exclusively to the top peaks of the corrugated fins." Thus, Sugawara cannot anticipate the claimed invention and the rejection should be withdrawn.

Reconsideration and withdrawal of the rejection of claim 19 is respectfully requested.

Claim 20 depends from claim 19 and is allowable therewith, for at least the reasons set forth above, without regard to the further patentable limitations set forth therein.

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

Date 9/25/02

By 

FOLEY & LARDNER
Washington Harbour
3000 K Street, N.W., Suite 500
Washington, D.C. 20007-5109
Telephone: (202) 672-5300
Facsimile: (202) 672-5399

Howard N. Shipley
Registration No. 39,370
Pavan Agarwal
Registration No. 40,888
Attorneys for Applicants

The Commissioner is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 19-0741

VERSION SHOWING CHANGES MADE

19. (Twice Amended) A method for manufacturing a heat exchanger, comprising the steps of:

applying a coating material comprising a fluid mixture containing flux exclusively to top peaks of corrugated fins;

stacking a plurality of said corrugated fins and a plurality of flat tubes in an alternating manner to thereby constitute a core;

inserting ends of said flat tubes of the core into tube insertion holes of header tanks; and

heating the core, thereby brazing together the top peaks of the corrugated fins and the flat tubes [tubs].

20. (Twice Amended) A method for manufacturing a heat exchanger according to claim 19, further comprising a step of applying the coating material to one of peripheral edges of the tube insertion holes formed in the header tanks and the ends of the flat tubes before said heating, so that the peripheral edges of the tube insertion holes of the header tanks and the ends of the respective flat tubes are brazed [a] during said heating step.